Community Health Needs Assessment 2016

Casey County Hospital

BKD LLP
CPAs & Advisors

Contents

Introduction

Internal Revenue Code (IRC) Section 501(r) requires health care organizations to assess the health needs of their communities and adopt implementation strategies to address identified needs. Per IRC Section 501(r), a byproduct of the *Affordable Care Act*, to comply with federal tax-exemption requirements, a tax-exempt hospital facility must:

- ✓ Conduct a community health needs assessment (CHNA) every three years.
- ✓ Adopt an implementation strategy to meet the community health needs identified through the assessment.
- ✓ Report how it is addressing the needs identified in the CHNA as well as a description of needs that are not being addressed with the reasons why such needs are not being addressed.

The CHNA must take into account input from persons including those with special knowledge of or expertise in public health, those who serve or interact with vulnerable populations and those who represent the broad interest of the community served by the hospital facility. The hospital facility must make the CHNA widely available to the public.

This CHNA, which describes both a process and a document, is intended to document Casey County Hospital's (Hospital or Casey) compliance with IRC Section 501(r)(3). Health needs of the community have been identified and prioritized so that the Hospital may adopt an implementation strategy to address specific needs of the community.

The *process* involved:

- ✓ An evaluation of the implementation strategy for fiscal years ending June 30, 2014 through June 30, 2016, which was adopted by the Hospital's board of directors in 2013.
- ✓ Collection and analysis of a large range of data, including demographic, socioeconomic and health statistics, health care resources and hospital data.
- ✓ Obtaining community input through interviews with key stakeholders who represent a) persons with specialized knowledge in public health, b) populations of need or c) broad interests of the community.

This *document* is a summary of all the available evidence collected during the CHNA conducted in tax year 2015. It will serve as a compliance document, as well as a resource, until the next assessment cycle. Both the *process* and *document* serve as the basis for prioritizing the community's health needs and will aid in planning to meet those needs.

Summary of Community Health Needs Assessment

The purpose of the CHNA is to understand the unique health needs of the community served by the Hospital and to document compliance with new federal laws outlined above.

The Hospital engaged **BKD, LLP** to conduct a formal CHNA. **BKD, LLP** is one of the largest CPA and advisory firms in the United States, with approximately 2,000 partners and employees in 34 offices. BKD serves more than 900 hospitals and health care systems across the country. The CHNA was conducted from January 2016 to June 2016.

Based on current literature and other guidance from the treasury and the IRS, the following steps were conducted as part of the Hospital's CHNA:

- An evaluation of the impact of actions taken to address the significant health needs identified in the tax year 2013 CHNA was completed to understand the effectiveness of the Hospital's current strategies and programs.
- The "community" served by the Hospital was defined by utilizing inpatient data regarding patient origin. This process is further described in *Community Served by the Hospital*.
- Population demographics and socioeconomic characteristics of the community were gathered and reported utilizing various third parties (see references in *Appendices*). The health status of the community was then reviewed. Information on the leading causes of death and morbidity information was analyzed in conjunction with health outcomes and factors reported for the community by the Center for Disease Control and Prevention (Community Health Status Indicators) as well as countyhealthrankings.org. Health factors with significant opportunity for improvement were noted.
- Community input was provided through key stakeholder interviews of seven stakeholders. Results and findings are described in the *Key Stakeholder Interview Results* section of this report.
- Information gathered in the above steps was analyzed and reviewed to identify health issues of uninsured persons, low-income persons and minority groups and the community as a whole. Health needs were ranked utilizing a weighting method that weighs 1) the size of the problem, 2) the seriousness of the problem, 3) the impact of the issues on vulnerable populations, 4) the prevalence of common themes and 5) how important the issue is to the community.
- An inventory of health care facilities and other community resources potentially available to address the significant health needs identified through the CHNA was prepared and collaborative efforts were identified.

Health needs were then prioritized taking into account the perceived degree of influence the Hospital has to impact the need and the health needs impact on overall health for the community. Information gaps identified during the prioritization process have been reported.

General Description of the Hospital

Casey County Hospital is a general medical hospital with 24 licensed beds and is located in Liberty, Kentucky. The Hospital underwent a complete rebuild and renovation in 2008 and is a very modern facility. The medical staff consists of three Family Practice physicians and a full-time radiologist. The hospital also has two cardiology clinics. The emergency room has five private rooms, CTs and x-rays read by radiologist.

Casey County Hospital is a part of the Inspire Medical group. Inspire Medical is a physician owned Emergency Department Management and Staffing Group with a solid network of Kentucky physicians committed to rural Kentucky communities and hospitals.

Mission

Casey County Hospital's primary goal is to provide quality hospital services to the citizens of Casey County and the surrounding area. Organizational performance will be constantly reviewed and improved by effective processes, functions and service measured through continuous efforts by quality teams and activities such as staff, patient and community education.

Evaluation of Prior Implementation Strategy

The implementation strategy for fiscal years ending June 30, 2014 through June 30, 2016, focused on three strategies to address identified health needs. Based on the Hospital's most recent evaluation, the Hospital has made significant progress in meeting their goals and strategies outlined in their 2013 Implementation Strategy as reported below.

Priority 1: Increase access to specialists and physicians

- Met with area physicians to ascertain availability of specialists and identify specialties not currently offered.
- Currently, Dr. Avichai Eres from Kentucky Cardiology sees patients at Casey County Primary Care two times per month. If any patient seen at the hospital or the clinics requires the needs of a specialist, we will find them one in a timely manner.
- Advertised in "Casey County News" and "Discover Casey County" to promote and feature providers and services.
- Erected billboards featuring providers at Casey County Primary Care

Priority 2: Educational programs and outreach

- Partnered with Casey County Health Department to promote and advertise smoking cessation programs within the community and around the Hospital.
- Provided a sponsorship at Relay for Life and promoted new digital mammography system and breast cancer awareness.
- Provided flu shots to residents who participated in Casey County Adult Day.
- Scheduled educational programs at the Casey County Senior Citizens Center for the elderly (*i.e.* medication safely, dietary needs, chronic care management and exercises).
- Hosted KYNECT representatives to assist residents on the Affordable Care Act and how it will impact the community and individuals.

Priority 3: Financial Assistance

- Increased awareness within hospital regarding financial assistance and programs using pamphlets and flyers located in hospital lobby and ER waiting area.
- Employed organization to assist patients who do not have insurance with obtaining health insurance. This organization also assists those who qualify for Medicare to obtain coverage more quickly.
- Increased awareness within the community by contacting representatives from social service departments and school system.

Summary of Findings – 2015 Tax Year CHNA

Health needs were identified based on information gathered and analyzed through the 2016 CHNA conducted by the Hospital. These identified community health needs are discussed in greater detail later in this report and the prioritized listing is available at *Exhibit 26*.

Based on the prioritization process, the following significant needs were identified:

- Adult obesity
- High cost of healthcare/deductibles
- Lack of primary care physicians
- Lack of health knowledge
- Healthy behaviors/lifestyle changes
- Lack of mental health providers
- High blood pressure
- Adult smoking
- Transportation
- Substance abuse
- Poverty/lack of financial resources/children in poverty
- Physical inactivity/access to parks

These needs have been prioritized based on information gathered through the CHNA and the prioritization process is discussed in greater detail later in this report.

Community Served by the Hospital

The Hospital is located in Liberty, Kentucky, in Casey County, and is an hour and a half south of Lexington. The Hospital is located off US highway 127. The Hospital serves residents in and around the city of Liberty.

Defined Community

A community is defined as the geographic area from which a significant number of the patients utilizing Hospital services reside. While the CHNA considers other types of health care providers, the Hospital is the single largest provider of acute care services. For this reason, the utilization of Hospital services provides the clearest definition of the community.

Based on the patient origin of acute care inpatient discharges and outpatient visits from July 1, 2014, through June 30, 2015 management has identified Casey County as the defined CHNA community. Casey County represents approximately 79% of the total as reflected in *Exhibit 1* below. The CHNA will utilize data and input from this county to analyze health needs for the community.

Exhibit 1
Summary of Inpatient Discharges & Outpatient Visits by Zip Code
7/1/2014 - 6/30/2015

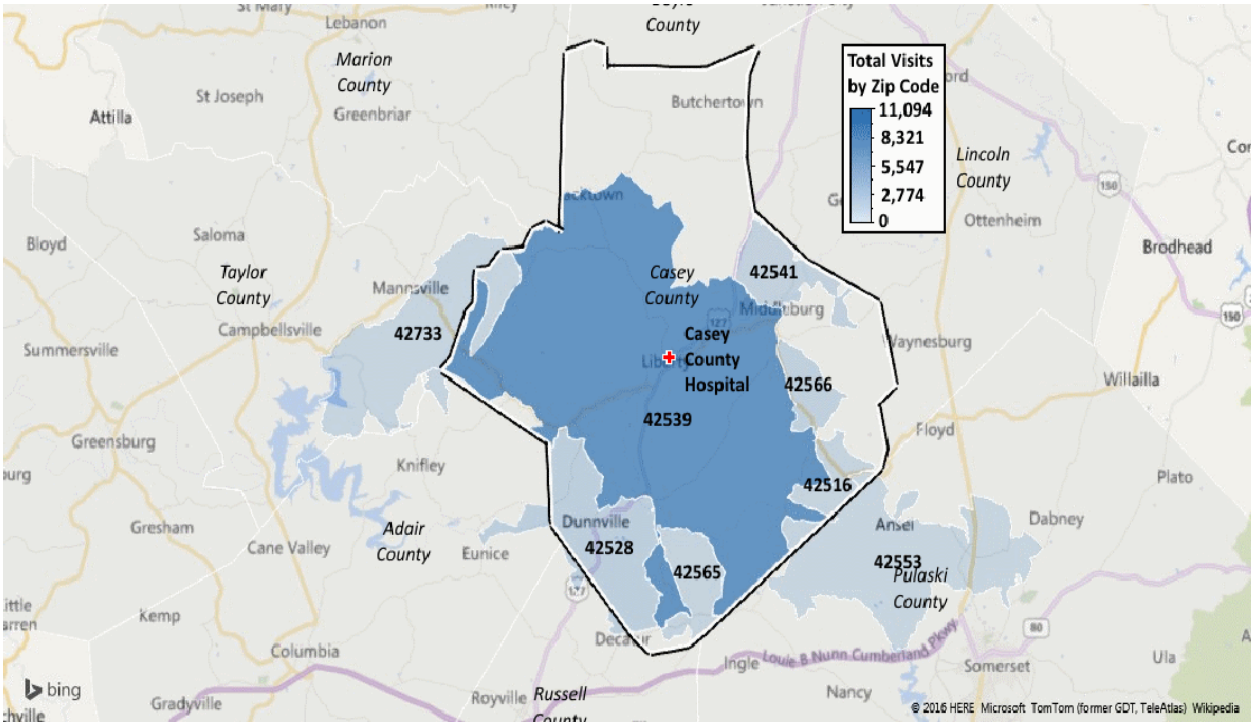
Zip Code	City	Inpatient	Outpatient	Total	Percent of Total
Casey County:					
42539	Liberty	513	10,581	11,094	64.4%
42566	Yosemite	50	583	633	3.7%
42528	Dunnville	49	838	887	5.1%
42541	Middleburg	30	446	476	2.8%
42516	Bethelridge	12	233	245	1.4%
42553	Science Hill	8	31	39	0.2%
42733	Elkhorn	5	125	130	0.8%
42565	Windsor	3	224	227	1.3%
	Total Casey County	**670**	**13,061**	**13,731**	**79.7%**
	All Other Outside Casey County	176	3,321	3,497	20.3%
	Total	846	16,382	17,228	100.0%

Source: Casey County Hospital

Community Details

Identification and Description of Geographical Community

The following map geographically illustrates the Hospital's community by showing the community zip codes shaded by number of inpatient discharges. The map below displays the Hospital's geographic relationship to the community, as well as significant roads and highways.



Community Population and Demographics

The U.S. Bureau of Census has compiled population and demographic data. *Exhibit 2* below shows the total population of the CHNA community. It also provides the breakout of the CHNA community between the male and female population, age distribution, race/ethnicity and the Hispanic population.

Exhibit 2
Demographic Snapshot

DEMOGRAPHIC CHARACTERISTICS

	Total Population		Casey County
Casey County	16,002		
Kentucky	4,383,272	Total Male Population	7,901
United States	314,107,083	Total Female Population	8,101

POPULATION DISTRIBUTION

Age Distribution Age Group	County	Total	Kentucky	Kentucky	United States	of Total US
0 - 4	1,012	6.32%	277,776	6.34%	19,973,712	6.36%
5 - 17	2,674	16.71%	740,574	16.90%	53,803,944	17.13%
18 - 24	1,260	7.87%	425,213	9.70%	31,273,296	9.96%
25 - 34	1,812	11.32%	566,093	12.91%	42,310,184	13.47%
35 - 44	2,005	12.53%	568,453	12.97%	40,723,040	12.96%
45 - 54	2,191	13.69%	626,850	14.30%	44,248,184	14.09%
55 - 64	2,229	13.93%	563,817	12.86%	38,596,760	12.29%
65+	2,819	17.62%	614,496	14.02%	43,177,963	13.75%
Total	16,002	100.00%	4,383,272	100%	314,107,083	100%

RACE/ETHNICITY

	Race/Ethnicity Distribution					
Race/Ethnicity	Casey County	Percent of Total	Kentucky	Percent Kentucky	United States	Percent of Total US
White Non-Hispanic	15,277	95.47%	3,760,868	85.80%	197,159,492	62.77%
Hispanic	426	2.66%	139,636	3.19%	53,070,096	16.90%
Black Non-Hispanic	177	1.11%	340,235	7.76%	38,460,597	12.24%
Asian & Pacific Island Non-Hispanic	40	0.25%	54,937	1.25%	16,029,364	5.10%
All Others	82	0.51%	87,596	2.00%	9,387,534	2.99%
Total	16,002	100.00%	4,383,272	100.00%	314,107,083	100.00%

Source: Community Commons (ACS 2010-2014 data sets)

While the relative age of the community population can impact community health needs, so can the ethnicity and race of a population. The population of the CHNA community by race and illustrates different categories of race such as, white, black, Asian, other and multiple races. White non-Hispanics make up over 95% of the community while Hispanics make up approximately 3% of the CHNA community. The community is also comprised of a higher percentage of seniors compared to the state and national percentages

Exhibit 3 reports the percentage of population living in urban and rural areas. Urban areas are identified using population density, count, and size thresholds. Urban areas also include territory with a high degree of impervious surface (development). Rural areas are all areas that are not urban. This table could help to understand why transportation may or may not be considered a need within the community, especially within the rural and outlying populations.

Exhibit 3

County	Percent Urban	Percent Rural
Casey County, KY	0.00%	100.00%
KENTUCKY	58.38%	41.62%
UNITED STATES	80.89%	19.11%

Source: Community Commons (2010)

Socioeconomic Characteristics of the Community

The socioeconomic characteristics of a geographic area influence the way residents access health care services and perceive the need for health care services within society. The economic status of an area may be assessed by examining multiple variables within the CHNA community. The following exhibits are a compilation of data that includes household per capita income, unemployment rates, poverty, uninsured population and educational attainment for the CHNA community. These standard measures will be used to compare the socioeconomic status of the community to the state of Kentucky and the United States.

Income and Employment

Exhibit 4 presents the per capita income for the CHNA community. This includes all reported income from wages and salaries, as well as income from self-employment, interest or dividends, public assistance, retirement and other sources. The per capita income in this exhibit is the average (mean) income computed for every man, woman and child in the specified area. Casey County's per capita income is well below the state of Kentucky and the United States.

Exhibit 4

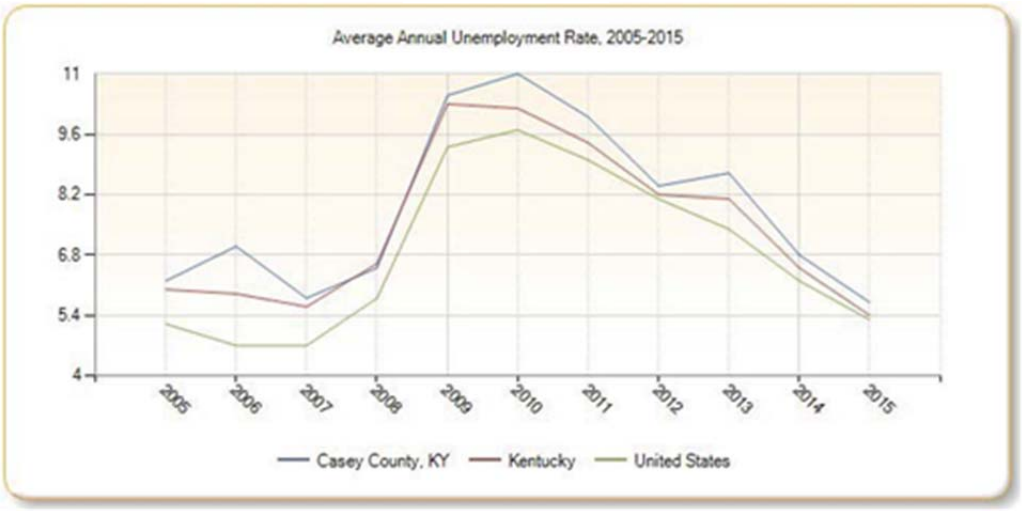
County	Total Population	Total Income ($)	Per Capita Income ($)
Casey County, KY	16,002	$ 255,217,200	**$ 15,949**
KENTUCKY	4,383,272	$ 104,061,403,136	$ 23,740
UNITED STATES	314,107,072	$ 8,969,237,037,056	$ 28,554

Source: Community Commons (2010 – 2014)

Unemployment Rate

Exhibit 5 presents the average annual unemployment rate from 2005 - 2014 for the community defined as the community, as well as the trend for Kentucky and the United States. On average, the unemployment rates for the community are higher than both the United States and the state of Kentucky. A decrease in the unemployment rate has been the trend since 2010, with the exception of 2013 when a slight increase occurred.

Exhibit 5



Data Source: US Department of Labor, Bureau of Labor Statistics. 2015 - May. Source geography: County

Poverty

Exhibit 6 presents the percentage of total population below 100% Federal Poverty Level (FPL). Poverty is a key driver of health status and is relevant because poverty creates barriers to access, including health services, healthy food choices and other factors that contribute to poor health. Casey County's poverty rate is greater (almost double) the state and national poverty rate.

Exhibit 6

County	Total Population	Population in Poverty	Percent Population in Poverty
Casey County, KY	15,638	4,506	**28.81%**
KENTUCKY	4,248,233	803,866	18.92%
UNITED STATES	306,226,400	47,755,608	15.59%

Data Source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract
Note: Total population for poverty status was determined at the household level.

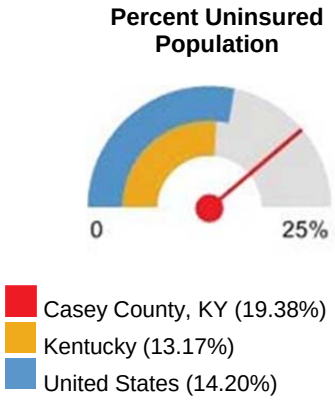
Uninsured

Exhibit 7 reports the percentage of the total civilian non-institutionalized population without health insurance coverage. This indicator is relevant because lack of insurance is a primary barrier to health care access, including regular primary care, specialty care and other health services that contribute to poor health status. *Exhibit 7* shows more than 3,000 persons are uninsured in the CHNA community based on 5-year estimates produced by the U.S. Census Bureau, 2010-2014 American Community Survey. However, the 2015 uninsured rate is estimated to be 12% for Casey County, per www.enrollamerica.org, which indicates the uninsured population has decreased by an additional 1,000 persons, since 2014, in the CHNA Community; primarily the result of the Affordable Care Act.

Exhibit 7

County	Total Population (For Whom Insurance Status is Determined)	Total Uninsured Population	Percent Uninsured Population
Casey County, KY	15,704	3,043	**19.38%**
KENTUCKY	4,296,790	566,083	13.17%
UNITED STATES	309,082,272	43,878,140	14.20%

Data Source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract



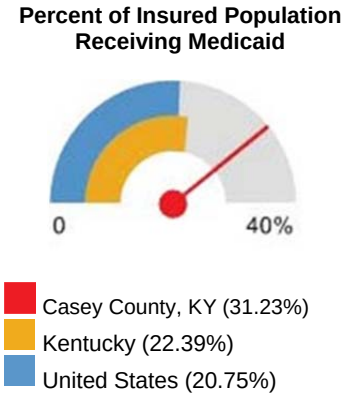
Medicaid

The Medicaid indicator reports the percentage of the population with insurance enrolled in Medicaid (or other means-tested public health insurance). This is relevant because it assesses vulnerable populations, which are more likely to have multiple health access, health status and social support needs; when combined with poverty data, providers can use this measure to identify gaps in eligibility and enrollment. *Exhibit 8* shows Casey County ranks unfavorably when compared to the state of Kentucky and the United States.

Exhibit 8

County	Total Population (For Whom Insurance Status is Determined)	Population with Any Health Insurance	Population Receiving Medicaid	Percent of Insured Population Receiving Medicaid
Casey County, KY	15,704	12,661	3,954	**31.23%**
KENTUCKY	4,296,790	3,730,707	835,385	22.39%
UNITED STATES	309,082,272	265,204,128	55,035,660	20.75%

Data Source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract



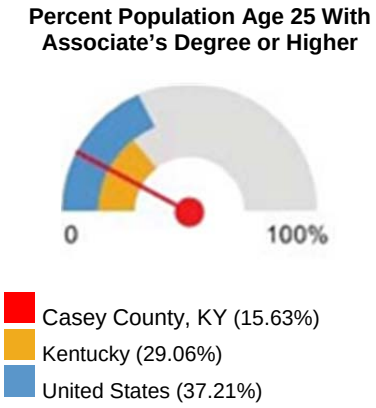
Education

Exhibit 9 presents the population with an Associate's degree or higher in Casey County versus Kentucky and the United States.

Exhibit 9

County	Total Population Age 25	Population Age 25 with Associate's Degree or Higher	Percent Population Age 25 with Associate's Degree or Higher
Casey County, KY	11,056	1,728	**15.63%**
KENTUCKY	2,939,709	854,395	29.06%
UNITED STATES	209,056,128	77,786,232	37.21%

Data Source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract



Education levels obtained by community residents may impact the local economy. Higher levels of education generally lead to higher wages, less unemployment and job stability. These factors may indirectly influence community health. As noted in *Exhibit 9*, the percent of residents within the CHNA community of Casey County obtaining an associate's degree or higher is well below the state and national percentages.

Physical Environment of the Community

A community's health is also affected by the physical environment. A safe, clean environment that provides access to healthy food and recreational opportunities is important to maintaining and improving community health. This section will touch on a few of the elements that relate to some needs mentioned throughout the report.

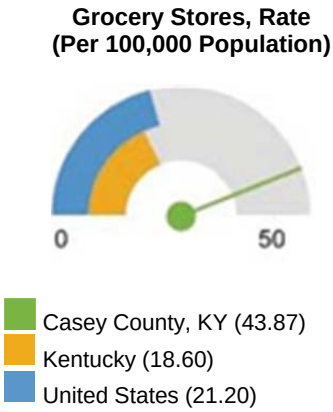
Grocery Store Access

Exhibit 10 reports the number of grocery stores per 100,000-population. Grocery stores are defined as supermarkets and smaller grocery stores primarily engaged in retailing a general line of food, such as canned and frozen foods, fresh fruits and vegetables and fresh and prepared meats, fish and poultry. Included are delicatessen-type establishments. Convenience stores and large general merchandise stores that also retail food, such as supercenters and warehouse club stores, are excluded. This indicator is relevant because it provides a measure of healthy food access and environmental influences on dietary behaviors.

Exhibit 10

County	Total Population	Number of Establishments	Establishments, Rate per 100,000 Population
Casey County, KY	15,955	7	**43.87**
KENTUCKY	4,339,367	806	18.60
UNITED STATES	312,732,537	66,286	21.20

Data Source: U.S. Census Bureau, County Business Patterns. Additional data analysis by CARES. 2013. Source geography: County



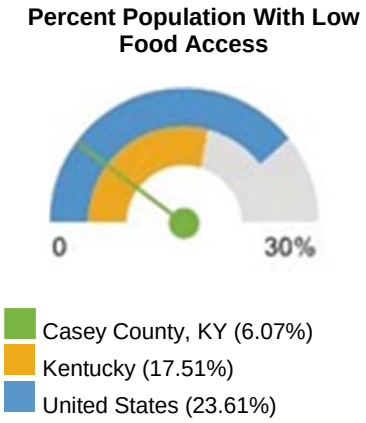
Food Access/Food Deserts

This indicator reports the percentage of the population living in census tracts designated as food deserts. A food desert is defined as a low-income census tract where a substantial number or share of residents has low access to a supermarket or large grocery stores. The information in *Exhibit 11* below is relevant because it highlights populations and geographies facing food insecurity. Casey County does not have a population with low food access when compared to Kentucky and the United States.

Exhibit 11

County	Total Population	Population With Low Food Access	Percent Population With Low Food Access
Casey County, KY	15,955	968	**6.07%**
KENTUCKY	4,339,367	759,659	17.51%
UNITED STATES	308,745,538	72,905,540	23.61%

Data Source: US Department of Agriculture, Economic Research Service, USDA - Food Access Research Atlas. 2010. Source geography: Tract



Recreation and Fitness Facility Access

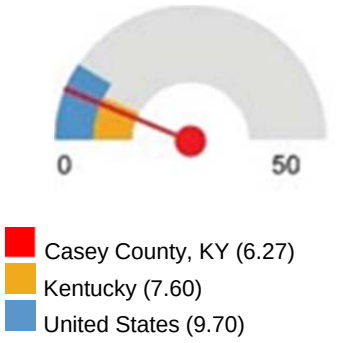
This indicator reports the number per 100,000-population of recreation and fitness facilities as defined by North American Industry Classification System (NAICS) Code 713940. It is relevant because access to recreation and fitness facilities encourages physical activity and other healthy behaviors. *Exhibit 12* shows that Casey County has fewer fitness establishments available to the residents of the community than Kentucky as a whole.

Exhibit 12

County	Total Population	Number of Establishments	Establishments, Rate per 100,000 Population
Casey County, KY	15,955	1	**6.27**
KENTUCKY	4,339,367	328	7.60
UNITED STATES	312,732,537	30,393	9.70

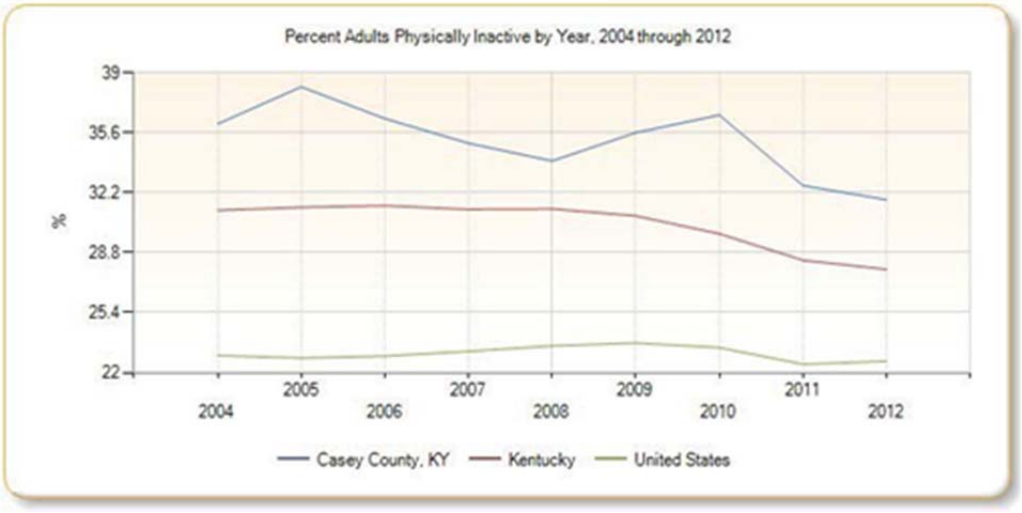
Data Source: US Census Bureau, County Business Patterns. Additional data analysis by CARES. 2013. Source geography: County

Recreation and Fitness Facilities, Rate (Per 100,000 Population)



The trend graph below (*Exhibit 13)* shows the percentage of adults who are physically inactive by year for the community and compared to Kentucky and the United States. From 2005 through 2008, the CHNA community percentage of adults who are physically inactive was on the decline from its peak of 38.2% but still higher than both the state of Kentucky and the United States. The trend then increased from 2008 through 2010. The latest data (2012) shows that the community has been improving the percentage of physically inactive adults but continues to be higher than the state of Kentucky and the United States.

Exhibit 13



Data Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. 2012. Source geography: County

Clinical Care of the Community

A lack of access to care presents barriers to good health. The supply and accessibility of facilities and physicians, the rate of uninsured, financial hardship, transportation barriers, cultural competency and coverage limitations affect access.

Rates of morbidity, mortality and emergency hospitalizations can be reduced if community residents access services such as health screenings, routine tests and vaccinations. Prevention indicators can call attention to a lack of access or knowledge regarding one or more health issues and can inform program interventions.

Access to Primary Care

Exhibit 14 shows the number of primary care physicians per 100,000-population. Doctors classified as "primary care physicians" by the American Medical Association include general family medicine MDs and DOs, general practice MDs and DOs, general internal medicine MDs and general pediatrics MDs. Physicians age 75 and over and physicians practicing sub-specialties within the listed specialties are excluded. This indicator is relevant because a shortage of health professionals contributes to access and health status issues.

Exhibit 14

County	Total Population, 2012	Primary Care Physicians, 2012	Primary Care Physicians, Rate per 100,000 Population
Casey County, KY	16,082	2	**12.40**
KENTUCKY	4,380,415	2,824	64.50
UNITED STATES	313,914,040	233,862	74.50

Data Source: US Department of Health Human Services, Health Resources and Services Administration, Area Health Resource File. 2012. Source geography: County

Lack of a Consistent Source of Primary Care

Exhibit 15 reports the percentage of adults aged 18 and older who self-report that they do not have at least one person who they think of as their personal doctor or health care provider. This indicator is relevant because access to regular primary care is important to preventing major health issues and emergency department visits.

Exhibit 15

County	Survey Population (Adults Age 18)	Total Adults Without Any Regular Doctor	Percent Adults Without Any Regular Doctor
Casey County, KY	20,038	5,315	**26.53%**
Kentucky	3,311,523	635,011	19.18%
United States	236,884,668	52,290,932	22.07%

Data Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Additional data analysis by CARES. 2011-12. Source geography: County.

Population Living in a Health Professional Shortage Area

This indicator reports the percentage of the population that is living in a geographic area designated as a Health Professional Shortage Area (HPSA), defined as having a shortage of primary medical care, dental or mental health professionals. This indicator is relevant because a shortage of health professionals contributes to access and health status issues. As *Exhibit 16* below shows, all of Casey County is considered a health professional shortage area.

Exhibit 16

County	Total Area Population	Population Living in a HPSA	Percentage of Population Living in a HPSA
Casey County, KY	15,955	15,955	**100.00%**
Kentucky	4,339,367	1,044,970	24.08%
United States	308,745,538	105,203,742	34.07%

Data Source: U.S. Department of Health Human Services, Health Resources and Services Administration, Health Professional Shortage Areas. March 2015. Source geography: HPSA

Preventable Hospital Events

Exhibit 17 reports the discharge rate (per 1,000 Medicare enrollees) for conditions that are ambulatory care sensitive (ACS). ACS conditions include pneumonia, dehydration, asthma, diabetes and other conditions which could have been prevented if adequate primary care resources were available and accessed by those patients. This indicator is relevant because analysis of ACS discharges allows demonstrating a possible "return on investment" from interventions that reduce admissions (for example, for uninsured or Medicaid patients) through better access to primary care resources.

Exhibit 17

County	Total Medicare Part A Enrollees	Ambulatory Care Sensitive Condition Hospital Discharges	Ambulatory Care Sensitive Condition Discharge Rate
Casey County, KY	2,725	491	**180.20**
Kentucky	474,007	44,747	94.40
United States	58,209,898	3,448,111	59.20

Data Source: Dartmouth College Institute for Health Policy Clinical Practice, Dartmouth Atlas of Health Care. 2012. Source geography: County

Health Status of the Community

This section of the assessment reviews the health status of the CHNA community and its residents. As in the previous section, comparisons are provided with the state of Kentucky and the United States. This in-depth assessment of the mortality and morbidity data, health outcomes, health factors and mental health indicators of the county residents that make up the CHNA community will enable the Hospital to identify priority health issues related to the health status of its residents.

Good health can be defined as a state of physical, mental and social well-being, rather than the absence of disease or infirmity. According to *Healthy People 2020*, the national health objectives released by the U.S. Department of Health and Human Services, individual health is closely linked to community health. Community health, which includes both the physical and social environment in which individuals live, work and play, is profoundly affected by the collective behaviors, attitudes and beliefs of everyone who lives in the community. Healthy people are among a community's most essential resources.

Numerous factors have a significant impact on an individual's health status: lifestyle and behavior, human biology, environmental and socioeconomic conditions, as well as access to adequate and appropriate health care and medical services.

Studies by the American Society of Internal Medicine conclude that up to 70% of an individual's health status is directly attributable to personal lifestyle decisions and attitudes. Persons who do not smoke, drink in moderation (if at all), use automobile seat belts (car seats for infants and small children), maintain a nutritious low-fat, high-fiber diet, reduce excess stress in daily living and exercise regularly have a significantly greater potential of avoiding debilitating diseases, infirmities and premature death.

The interrelationship among lifestyle/behavior, personal health attitude and poor health status is gaining recognition and acceptance by both the general public and health care providers. Some examples of lifestyle/behavior and related health care problems include the following:

Lifestyle/ Behavior	Primary Disease Factor	
Smoking	Lung cancer Cardiovascular disease	Emphysema Chronic bronchitis
Alcohol/drug abuse	Cirrhosis of liver Motor vehicle crashes Unintentional injuries Malnutrition	Suicide Homicide Mental illness
Poor nutrition	Obesity Digestive disease Depression	
Driving at excessive speeds	Trauma Motor vehicle crashes	
Lack of exercise	Cardiovascular disease Depression	
Overstressed	Mental illness Alcohol/drug abuse Cardiovascular disease	

Health problems should be examined in terms of morbidity as well as mortality. Morbidity is defined as the incidence of illness or injury, and mortality is defined as the incidence of death. Such information provides useful indicators of health status trends and permits an assessment of the impact of changes in health services on a resident population during an established period of time. Community attention and health care resources may then be directed to those areas of greatest impact and concern.

Leading Causes of Death and Health Outcomes

Exhibit 18 reflects the leading causes of death for the community and compares the age-adjusted rates to the state of Kentucky and the United States.

Exhibit 18

Age-Adjusted Rates

Selected Causes of Resident Deaths	Age-Adjusted Death Rate per 100,000 Population		
	Casey County	Kentucky	United States
Cancer	256.4	202.9	168.9
Heart Disease	210.7	209.1	175.0
Lung Disease	81.9	63.1	42.2
Motor Vehicle Accident	23.5	16.9	10.8
Stroke	42.2	44.2	37.9
Unintentional Injury	62.4	58.6	38.6

Source: Community Commons 2009-2013

The table above shows leading causes of death within Casey County as compared to the state of Kentucky and also to the United States. The age-adjusted rate is shown per 100,000 residents. The rates in red represent Casey County and corresponding leading causes of death that are greater than the state rates. As the table indicates, all of the leading causes of death above, with the exception of Stroke, are greater than the Kentucky and national rates.

Health Outcomes and Factors

An analysis of various health outcomes and factors for a particular community can, if improved, help make the community a healthier place to live, learn, work and play. A better understanding of the factors that affect the health of the community will assist with how to improve the community's habits, culture and environment. This portion of the community health needs assessment utilizes information from County Health Rankings, a key component of the Mobilizing Action Toward Community Health (MATCH) project, a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute.

The County Health Rankings model is grounded in the belief that programs and policies implemented at the local, state and federal levels have an impact on the variety of factors that, in turn, determine the health outcomes for communities across the nation. The model provides a ranking method that ranks all 50 states and the counties within each state, based on the measurement of two types of health outcomes for each county: how long people live (mortality) and how healthy people feel (morbidity). These outcomes are the result of a collection of health factors and are influenced by programs and policies at the local, state and federal levels.

Counties in each of the 50 states are ranked according to summaries of a variety of health measures. Those having high ranks, *e.g.* 1 or 2, are considered to be the "healthiest". Counties are ranked relative to the health of other counties in the same state based on health outcomes and factors, clinical care, economic status and the physical environment.

A number of different health factors shape a community's health outcomes. The County Health Rankings model includes four types of health factors: health behaviors, clinical care, social and economic and the physical environment. As can be seen from the chart below, many rankings within each area have improved from 2012.

Casey County Indicators	2012	2015
Health Outcomes	82	82
Mortality	83	70
Morbidity	71	87
Health Factors	98	99
Health Behaviors	110	99
Clinical Care	117	115
Social and Economic Factors	82	79
Physical Environment	4	88

Out of 120 counties in Kentucky

Source: Counthhealthrankings.org

The following tables in *Exhibits 20.1* and *20.2* include the 2012 and 2015 indicators reported by County Health Rankings for Casey County. The health indicators that are unfavorable when compared to the Kentucky rates are shaded in gray.

Exhibit 20.1
County Health Rankings – Health Outcomes

		Casey County 2012***	Casey County 2015***	Kentucky 2015	Top U.S. Performers 2015**
Mortality	*	83	70		
Premature death – Years of potential life lost before age 75 per 100,000 population (age-		10,495	9,800	8,800	5,200
Morbidity	*	71	87		
Poor or fair health – Percent of adults reporting fair or poor health (age-adjusted)		28%	25%	24%	12%
Poor physical health days – Average number of physically unhealthy days reported in past 30 days (age-adjusted)		6.3	5.6	5.0	2.9
Poor mental health days – Average number of mentally unhealthy days reported in past 30 days (age-adjusted)		5.1	4.6	4.6	2.8
Low birth weight – Percent of live births with low birth weight (<2500 grams)		8.3%	9.0%	9.0%	6.0%

* Rank out of 120 Kentucky counties

** 90th percentile, i.e., only 10% are better

*** Data for 2012 and 2015 was released in 2013 and 2016

^ Data should not be compared between years due to changes in definition and/or methods

Source: Countyhealthrankings.org

Exhibit 20.2
County Health Rankings – Health Factors

		Casey County 2012***	Casey County 2015***	Kentucky 2015	Top U.S. Performers 2015**
Health Behaviors	*	**110**	**99**		
Adult smoking – Percent of adults that report smoking at least 100 cigarettes and that they currently smoke		33.0%	27.0%	26.0%	14.0%
Adult obesity – Percent of adults that report a BMI >= 30		36.0%	36.0%	32.0%	25.0%
Food environment index – Index of factors that contribute to a healthy food environment, 0 (worst) to 10		N/A	7.2	7.1	8.3
Physical inactivity – Percent of adults age 20 and over reporting no leisure time physical activity		37.0%	33.0%	29.0%	20.0%
Access to exercise opportunities – Percentage of population with adequate access to locations for physical		N/A	33.0%	70.0%	91.0%
Excessive drinking – Percent of adults that report excessive drinking in the past 30 days		14.0%	11.0%	14.0%	12.0%
Alcohol-impaired driving deaths – Percentage of driving deaths with alcohol involvement		N/A	35.0%	29.0%	14.0%
Sexually transmitted infections – Chlamydia rate per 100K population		125.0	254.9	391.2	134.1
Teen birth rate – Per 1,000 female population, ages 15-19		55.0	59.0	47.0	19.0
Clinical Care	*	**117**	**115**		
Uninsured adults – Percent of population under age 65 without health insurance		24.0%	23.0%	17.0%	11%
Primary care physicians – Ratio of population to primary care physicians		7,980:1	8,030:1	1,500:1	1,040:1
Dentists – Ratio of population to dentists		15,960:1	7,950:1	1,610:1	1,340:1
Mental health providers – Ratio of population to mental health providers		N/A	1,440:1	560:1	370:1
Preventable hospital stays – Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees		181.0	151.0	85.0	38.0
Diabetic screening – Percent of diabetic Medicare enrollees that receive HbA1c screening		82.0%	86.0%	86.0%	90.0%
Mammography screening – Percent of female Medicare enrollees that receive mammography screening		49.8%	47.0%	58.0%	71.0%

Exhibit 20.2 cont.
County Health Rankings – Health Factors (cont.)

		Casey County 2012***	Casey County 2015***	Kentucky 2015	Top U.S. Performers 2015**
Social and Economic Factors	*	82	79		
High school graduation – Percent of ninth grade cohort that graduates in 4 years		75.0%	93.0%	88.0%	93.0%
Some college – Percent of adults aged 25-44 years with some post-secondary education		42.5%	42.0%	59.0%	72.0%
Unemployment – Percent of population age 16+ unemployed but seeking work		9.6%	7.0%	6.5%	3.5%
Children in poverty – Percent of children under age 18 in poverty		42.0%	43.0%	26.0%	13.0%
Income inequality – Ratio of household income at the 80th percentile to income at the 20th percentile		N/A	4.8	5.1	3.7
Children in single-parent households – Percent of children that live in household headed by single parent		26.0%	19.0%	34.0%	21.0%
Social associations – Number of membership associations per 10,000 population		N/A	6.8	10.8	22.1
Violent crime rate – Violent crime rate per 100,000 population (age-adjusted)		72.0	56.0	235.0	59.0
Injury deaths – Number of deaths due to injury per 100,000 population		N/A	91.0	82.0	51.0
Physical Environment	*	4	88		
Air pollution-particulate matter days – Average daily measure of fine particulate matter in micrograms per cubic		12.8	13.3	13.5	9.5
Severe housing problems – Percentage of household with at least one of four housing problems: overcrowding, high housing costs or lack of kitchen or plumbing facilities		N/A	15.0%	14.0%	9.0%
Driving alone to work – Percentage of the workforce that drives alone to work		N/A	78.0%	82.0%	71.0%
Long commute, driving alone – Among workers who commute in their car alone, the percentage that commute more than 30 minutes		N/A	42.0%	28.0%	15.0%

* Rank out of 120 Kentucky counties
** 90th percentile, i.e., only 10% are better
*** Data for 2012 and 2015 was pulled in 2013 and 2016
Note: N/A indicates unreliable or missing data

^ Data should not be compared betw een years due to changes in definition and/or methods
Source: Countyhealthrankings.org

Community Health Status Indicators

The Community Health Status Indicators (CHSI) Project of the U.S. Department of Health and Human Services compares many health status and access indicators to both the median rates in the United States and to rates in "peer counties" across the United States. Counties are considered "peers" if they share common characteristics such as population size, poverty rate, average age, and population density.

Casey County has multiple designated "peer" counties throughout the US, including Russell and Wayne in Kentucky. *Exhibit 21* provides a summary comparison of how Casey County compares with peer counties on the full set of primary indicators. Peer county values for each indicator were ranked and then divided into quartiles.

Exhibit 21
Casey County, Kentucky

	Most Favorable Quartile	Middle Two Quartiles	Least Favorable Quartile
Mortality	• Chronic lower respiratory disease (CLDR) deaths • Diabetes deaths	• Alzheimer's disease deaths • Coronary heart disease • Female life expectancy • Male life expectancy • Motor vehicle deaths • Unintentional injury (including motor vehicle)	• Cancer Deaths • Chronic kidney disease deaths • Stroke Deaths
Morbidity	• Adult Diabetes • Preterm births • Syphilis	• Adult Obesity • Adult overall health status • Alzheimer's disease/dementia • Gonorrhea • HIV • Older adult asthma • Older adult depression	• Cancer
Health Care Access and Quality		• Cost barrier to care • Uninsured	• Older adult preventable hospitalization • Primary Care Provider Access
Health Behaviors		• Adult female routine pap tests • Adult physical inactivity • Adult smoking • Teen births	• Adult binge drinking
Social Factors	• Children in single-parent households • Inadequate social support	• Poverty • Unemployment • Violent Crime	• High Housing Costs • No high school diploma
Physical Environment		• Limited access to healthy food • Living near highways	• Access to parks • Housing stress • Annual average PM2.5 concentration

Source: Community Health Status Indicators, 2015

The following exhibits show a more detailed view of certain health outcomes and factors. The percentages for Casey County are compared to the state of Kentucky and the United States.

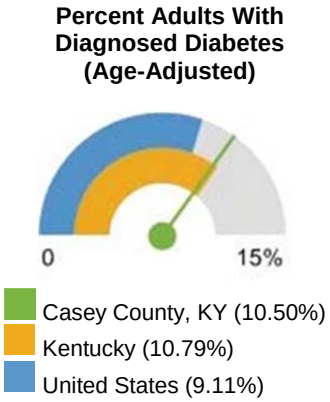
Diabetes (Adult)

Exhibit 22 reports the percentage of adults aged 20 and older who have ever been told by a doctor that they have diabetes. This indicator is relevant because diabetes is a prevalent problem in the U.S.; it may indicate an unhealthy lifestyle and puts individuals at risk for further health issues.

Exhibit 22

County	Total Population Age 20	Population With Diagnosed Diabetes	Population With Diagnosed Diabetes, Crude Rate	Population With Diagnosed Diabetes, Age-Adjusted Rate
Casey County, KY	11,976	1,473	12.30	10.50%
Kentucky	3,250,667	383,077	11.78	10.79%
United States	234,058,710	23,059,940	9.85	9.11%

Data Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. 2012. Source geography: County



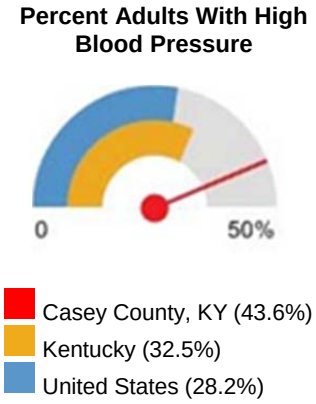
High Blood Pressure (Adult)

Per *Exhibit 23* below, 5,212 or 43.6% of adults aged 18 and older have ever been told by a doctor that they have high blood pressure or hypertension. The community percentage of high blood pressure among adults is greater than the percentage of Kentucky and the United States.

Exhibit 23

County	Total Population (Age 18)	Total Adults With High Blood Pressure	Percent Adults With High Blood Pressure
Casey County, KY	11,955	5,212	43.60%
Kentucky	3,294,652	1,070,762	32.50%
United States	232,556,016	65,476,522	28.20%

Data Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Additional data analysis by CARES. 2006-12. Source geography: County



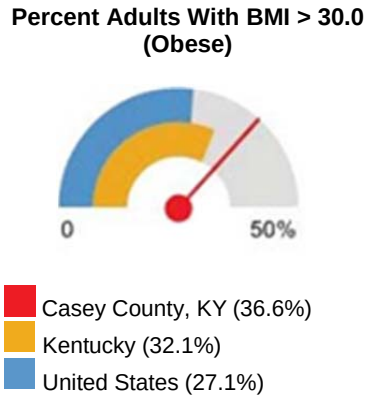
Obesity

Of adults aged 20 and older, 36.6% self-report that they have a Body Mass Index (BMI) greater than 30.0 (obese) in the Community per *Exhibit 24*. Excess weight may indicate an unhealthy lifestyle and puts individuals at risk for further health issues. The CHNA community has a BMI percentage slightly higher than the state and national rates.

Exhibit 24

County	Total Population Age 20	Adults With BMI > 30.0 (Obese)	Percent Adults With BMI > 30.0 (Obese)
Casey County, KY	11,975	4,347	**36.60%**
Kentucky	3,248,518	1,048,808	32.10%
United States	231,417,834	63,336,403	27.10%

Data Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion 2012. Source geography: County



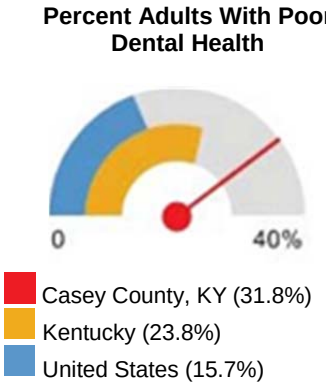
Poor Dental Health

This indicator is relevant because it indicates lack of access to dental care and/or social barriers to utilization of dental services. *Exhibit 25* shows the total CHNA Community has a larger percentage of adults with poor dental health than that of Kentucky and the United States.

Exhibit 25

County	Total Population (Age 18)	Total Adults With Poor Dental Health	Percent Adults With Poor Dental Health
Casey County, KY	12,080	3,836	**31.80%**
Kentucky	3,294,652	782,958	23.80%
United States	235,375,690	36,842,620	15.70%

Data Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Additional data analysis by CARES 2006-10. Source geography: County



Low Birth Weight

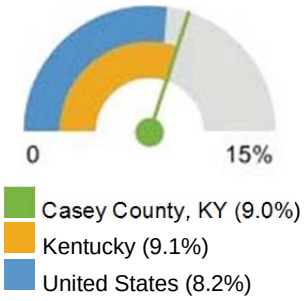
Exhibit 26 reports the percentage of total births that are low birth weight (Under 2500g). This indicator is relevant because low birth weight infants are at high risk for health problems. This indicator can also highlight the existence of health disparities.

Exhibit 26

County	Total Live Births	Low Weight Births (Under 2500g)	Low Weight Births, Percent of Total
Casey County, KY	1,344	121	**9.00%**
Kentucky	400,946	36,486	9.10%
United States	29,300,495	2,402,641	8.20%
HP 2020 Target			<= 7.80%

Data Source: U.S. Department of Health Human Services, Health Indicators Warehouse. Centers for Disease Control and Prevention, National Vital Statistics System. Accessed via CDC WONDER 2006-12. Source geography: County

Percent Low Birth Weight Births



Community Input – Key Stakeholder Interviews

Interviewing key stakeholders (persons with knowledge of or expertise in public health, community members who represent the broad interest of the community or persons representing vulnerable populations) is a technique employed to assess public perceptions of the county's health status and unmet needs. These interviews are intended to ascertain opinions among individuals likely to be knowledgeable about the community and influential over the opinions of others about health concerns in the community.

Methodology

Interviews were performed with seven key stakeholders. Stakeholders were determined based on a) their specialized knowledge or expertise in public health, b) their involvement with underserved and minority populations or c) their affiliation with local government, schools and industry.

All interviews were conducted by BKD personnel. Participants provided comments on the following issues:

- ✓ Health and quality of life for residents of the primary community
- ✓ Underserved populations and communities of need
- ✓ Barriers to improving health and quality of life for residents of the community
- ✓ Opinions regarding the important health issues that affect community residents and the types of services that are important for addressing these issues

Interview data was initially recorded in narrative form asking participants a series of fifteen questions. Please refer to *Appendix D* for a copy of the interview instrument. This technique does not provide a quantitative analysis of the stakeholders' opinions but reveals community input for some of the factors affecting the views and sentiments about overall health and quality of life within the community.

Key Stakeholder Profiles

Key stakeholders from the community (see *Appendix D* for a list of key stakeholders) worked for the following types of organizations and agencies:

- ✓ Casey County Hospital
- ✓ Social service agencies
- ✓ Local school systems
- ✓ Public health agencies
- ✓ Local churches

Key Stakeholder Interview Results

The questions on the interview instrument are grouped into four major categories for discussion. The interview questions for each key stakeholder were identical. A summary of the stakeholders' responses by each of the categories follows. Paraphrased quotes are included to reflect some commonly held opinions and direct quotes are employed to emphasize strong feelings associated with the statements. This section of the report summarizes what the key stakeholders said without assessing the credibility of their comments.

1. General opinions regarding health and quality of life in the community

The key stakeholders were asked to rate the health and quality of life in Casey County. They were also asked to provide their opinion whether the health and quality of life had improved, declined or stayed the same over the past few years. Lastly, key stakeholders were asked to provide support for their answers.

All seven stakeholders rated the health and quality of life in the community as "good" or "average". Stakeholders noted Casey County is rural community and therefore the mainstream trends take a little more time to reach them. They noted that the community is starting to become more focused on wellness and there is increased promotion of activities and healthier eating. They referred to the health fair that the Hospital has annually as a great resource for people in the community.

When asked whether the health and quality of life had improved, declined or stayed the same, 87% (6 out of 7) of the stakeholders responded they felt the health and quality of life had improved over the last few years. When asked why they thought the health and quality of life had improved, key stakeholders noted that people are a little more aware of healthy eating and commented on the increased options of healthier food at some establishments. Some stakeholders made the comment that there are more opportunities within the community to exercise and residents are on their way to living a healthier lifestyle. It was also mentioned that there are more employment opportunities available in the community. Stakeholders also noted there are more doctors in the community and that the hospital is a terrific resource for individuals in the community.

The majority of the stakeholders (5 of 7) felt that access to health services has improved over the last few years. They noted the addition of more doctor's offices within the community was a main factor in the improved access. They also noted the MCO's are visible within the community and there is a community health clinic available. Stakeholders felt the main reasons people were still not able to access health services is due to their inability to afford co-pays and deductibles within their insurance plans, fear and transportation, namely for the elderly.

"People are more aware of the importance of healthy eating."

"The exercise trend has finally started to hit – people are biking and walking around town."

2. Underserved populations and communities of need

Key stakeholders were asked to provide their opinions regarding specific populations or groups of people whose health or quality of life may not be as good as others. BKD also asked the key stakeholders to provide their opinions as to why they thought these populations were underserved or in need. Each key stakeholder was asked to consider the specific populations they serve or those with which they usually work.

Almost all of the key stakeholders identified persons living with low-incomes or in poverty as most likely to be underserved. Reasons for this are due to a lack of financial resources, which prevents

persons with low-income from seeking medical care and receiving the resources they need. It also leads to people being uninsured and underinsured. Some stakeholders mentioned while some individuals now have insurance through their place of employment, they cannot afford the deductibles to get proper healthcare.

The elderly/aging were also identified as a population that is faced with challenges accessing care due to isolation and lack of a family support system. Stakeholders noted that the elderly population have a difficult time coordinating their own care with physicians and transportation limitations create a barrier in getting to set appointments. Health needs are going unidentified and unaddressed due to this increased isolation.

Lastly, key stakeholders noted children are also an underserved population within the community. Some children do not have a structured family life which can lead to not attaining the proper preventative care or services.

"The elderly don't want to lose their independence but have no family support structure."

"The low income/working poor have poverty and financial strains."

"There is a great sense of community between neighbors."

3. Barriers

The key stakeholders were asked what barriers or problems keep community residents from obtaining necessary health services and improving health in their community. Many of the key stakeholders indicated that education and changing the mindset of the population is the largest barrier within the community. Being a rural community lends itself to a certain mindset and some stakeholders noted when things have always been done a certain way there is fear of change.

They also recognized that some types of medical services are not economically feasible for the hospital to provide to the community and the availability of larger hospitals and specialty clinics in nearby cities is seen as useful resources for community members. However, that also means residents have to leave the community in order to get access to certain types of health services, especially specialty services. Mental health services within the community are only available through Adanta, a private non-profit organization. Stakeholders expressed very positive sentiments regarding Casey County Hospital noting the hospital is doing the best they can in making services available to the community and that the hospital provides a lot of help to patients and the local physicians are providing great care to patients.

The key stakeholders also identified transportation as a barrier to obtaining care; particularly for the elderly population. Stakeholders noted that transportation to doctor's appointments is challenging and people don't have a way to get back home if they access the emergency room.

"Education is needed and the county is trying their best but sometimes you can't change the mindset and behavior of those who don't want to change their mind."

"The Hospital is good at the services it provides for a rural community."

4. Most important health and quality of life issues

Key stakeholders were asked to provide their opinion as to the most critical health and quality of life issues facing the county. The issues identified most frequently were:

- Smoking
- Substance abuse – drugs
- Mental health
- Neglect of personal health/preventive care
- Obesity

The key stakeholders were also asked to provide suggestion on what should be done to address the most critical issues. Responses included:

- If the community would become smoke-free it would improve all aspects of health.
- More education and awareness regarding healthy lifestyles.
- We need more drug prevention and treatment facilities for addicts. More counseling for youth you are arrested for drugs would be beneficial.
- More access to mental health services and professionals.
- More community outreach regarding services provided by the hospital is needed.
- We need stronger collaboration between the hospital and other agencies within the county.

"We are trying to reach those who need it most but people are stubborn and don't want to change their way of thinking."

"The health fair is very effective and has a great turnout."

In closing, the key stakeholders were asked to recommend the most important issue the Hospital should address over the next three to five years. The number one suggestion made by stakeholders was that the Hospital should continue to focus on providing quality medical care to the people of the community and to stay financially stable. They also suggested the hospital should increase their collaboration and communication with key people in the community to help promote the availability of services in the community and provide outreach into the community regarding healthy living.

Key Findings

A summary of themes and key findings provided by the key informants follows:

- The community needs regular updates regarding services that are available at the hospital and/or clinics as well as educational opportunities and preventive screenings.
- Although many of the interviewees thought transportation had improved over the past three years, it continues to be an issue for those living in rural areas of the community.
- The community values visiting specialists and the specialty clinics that are provided in the community.
- Increased focus on personal health and preventive care is needed in the community.
- Substance abuse is seen as one of the most critical health issues in the community due to the overall negative impact it has on one's health.
- Persons living in poverty have the highest unmet health needs in various areas.

Health Issues of Vulnerable Populations

According to Dignity Health's Community Need Index (see Appendices), the Hospital's community has a moderate level of need. The CNI score is an average of five different barrier scores that measure socioeconomic indicators of each community (income, cultural, education, insurance and housing). The median CNI score for Casey County is 2.8. The zip code with the highest level of need was 42539 (Liberty) with a score of 3.2.

Certain key stakeholders were selected due to their positions working with low-income and uninsured populations. Several key stakeholders were selected due to their work with minority populations. Based on information obtained through key stakeholder interviews and the community health survey, the following populations are considered to be vulnerable or underserved in the community and the identified needs are listed:

- Uninsured/Working Poor Population
  - Access to primary care physicians
  - High cost of health care prevents needs from being met
  - Lack of healthy lifestyle and health nutrition education

- Person with Mental Health Needs
  - Lack of mental health providers

- Poor Elderly
  - Transportation
  - Lack of health knowledge regarding how to navigate and access services
  - Lack of family support

Information Gaps

This assessment was designed to provide a comprehensive and broad picture of the health in the overall community served by the Hospital; however, there may be a number of medical conditions that are not specifically addressed in this report due to various factors, including but not limited to, publically available information or limited community input.

In addition, certain population groups might not be identifiable or might not be represented in numbers sufficient for independent analysis. Examples include homeless, institutionalized persons, undocumented residents and members of certain ethnic groups who do not speak English or Spanish. Efforts were made to obtain input from these specific populations through key stakeholder interviews.

Prioritization of Identified Health Needs

Priority setting is a required step in the community benefit planning process. The IRS regulations indicate that the CHNA must provide a prioritized description of the community health needs identified through the CHNA and include a description of the process and criteria used in prioritizing the health needs.

Using findings obtained through the collection of primary and secondary data, the Hospital completed an analysis of these inputs (see *Appendices*) to identify community health needs. The following data was analyzed to identify health needs for the community:

Leading Causes of Death

Leading causes of death for the community and the death rates for the leading causes of death for each county within the Hospital's CHNA community were compared to U.S. adjusted death rates. Causes of death in which the county rate compared unfavorably to the U.S. adjusted death rate resulted in a health need for the Hospital CHNA community.

Health Outcomes and Factors

An analysis of the County Health Rankings health outcomes and factors data was prepared for each county within Casey County Hospital's CHNA community. County rates and measurements for health behaviors, clinical care, social and economic factors and the physical environment were compared to state benchmarks. County rankings in which the county rate compared unfavorably (by greater than 30% of the national benchmark) resulted in an identified health need.

The indicators falling within the least favorable quartile from the Community Health Status Indicators (CHSI) resulted in an identified health need.

Primary Data

Health needs identified through key informant interviews were included as health needs. Needs for vulnerable populations were separately reported on the analysis in order to facilitate the prioritization process.

Health Needs of Vulnerable Populations

Health needs of vulnerable populations were included for ranking purposes.

To facilitate prioritization of identified health needs, a ranking process was used. Health needs were ranked based on the following five factors. Each factor received a score between 0 and 5.

1) **How many people are affected by the issue or size of the issue?** For this factor, ratings were based on the percentage of the community who are impacted by the identified need. The following scale was utilized: >25% of the community= 5; >15% and <25%=4; >10% and <15%=3; >5% and <10%=2 and <5%=1.
2) **What are the consequences of not addressing this problem?** Identified health needs which have a high death rate or have a high impact on chronic diseases received a higher rating.
3) **The impact of the problem on vulnerable populations.** Needs identified which pertained to vulnerable populations were rated for this factor.
4) **How important the problem is to the community.** Needs identified through community interviews and/or focus groups were rated for this factor.
5) **Prevalence of common themes.** The rating for this factor was determined by how many sources of data (leading causes of death, health outcomes and factors and primary data) identified the need.

Each need was ranked based on the five prioritization metrics. As a result, the following summary list of needs was identified:

Exhibit 26

Prioritization of Health Needs

	How Many People Are Affected by the Issue?	What Are the Consequences of Not Addressing This Problem?	What is the Impact on Vulnerable Populations?	How Important is it to the Community?	How Many Sources Identified the Need?	Total Score *
Adult Obesity	4	5	4	5	3	**21**
High Cost of Health Care/Deductibles	5	4	5	5	2	**21**
Lack of Primary Care Physicians	5	4	5	3	3	**20**
Lack of Health Knowledge	4	4	5	4	2	**19**
Healthy Behaviors/Lifestyle Changes	4	4	4	5	2	**19**
Lack of Mental Health Providers	3	3	5	4	2	**17**
High Blood Pressure	5	5	3	3	1	**17**
Adult Smoking	4	5	3	4	1	**17**
Transportation	3	3	5	4	2	**17**
Substance Abuse	4	4	3	4	2	**17**
Poverty/Lack of Financial Resources/Children in Poverty	3	4	3	3	3	**16**
Physical Inactivity/Access to parks	3	5	3	3	2	**16**
Uninsured	3	4	3	3	2	**15**
Preventable Hospital Stays	4	3	2	1	2	**12**
Heart Disease	2	3	2	3	1	**11**
Lung Disease	2	2	2	2	1	**9**
Stroke	2	2	2	2	1	**9**
Cancer	2	2	2	2	1	**9**
Motor Vehicle Accident/Alcohol Impaired Driving Deaths	3	2	0	0	2	**7**
Excessive Drinking	1	2	2	1	1	**7**
Sexually Transmitted Infections	1	2	2	0	1	**6**
Teen Birth Rate	1	2	2	0	1	**6**
Lack of Dentists	1	2	2	0	1	**6**
Unintentional Injury	1	2	0	0	1	**4**
Mammography Screenings	1	2	0	0	1	**4**
High Housing Costs	1	1	0	1	1	**4**

*Highest potential score = 25

Management's Prioritization Process

For the health needs prioritization process, the Hospital engaged the leadership team to review the most significant health needs reported in the prior CHNA, as well as in *Exhibit 26*, using the following criteria:

- ✓ Current area of Hospital focus
- ✓ Established relationships with community partners to address the health need
- ✓ Organizational capacity and existing infrastructure to address the health need

This data was reviewed to identify health issues of uninsured persons, low-income persons and minority groups, and the community as a whole. As a result of the analysis described above, the following health needs were identified as the most significant health needs for the community:

- Adult obesity
- High cost of healthcare/deductibles
- Lack of primary care physicians
- Lack of health knowledge
- Healthy behaviors/lifestyle changes
- Lack of mental health providers
- High blood pressure
- Adult smoking
- Transportation
- Substance abuse
- Poverty/lack of financial resources/children in poverty
- Physical inactivity/access to parks

The Hospital's next steps include developing an implementation strategy to address these priority areas.

Resources Available to Address Significant Health Needs

Health Care Resources

The availability of health care resources is a critical component to the health of a county's residents and a measure of the soundness of the area's health care delivery system. An adequate number of health care facilities and health care providers are vital for sustaining a community's health status. Fewer health care facilities and health care providers can impact the timely delivery of services. A limited supply of health resources, especially providers, results in the limited capacity of the health care delivery system to absorb charity and indigent care as there are fewer providers upon which to distribute the burden of indigent care.

Hospitals

The Hospital has 24 licensed beds. Residents of the community can also take advantage of services provided by hospitals in neighboring counties, as well as services offered by other facilities and providers. *Exhibit 28* summarizes hospitals available to the residents of CHNA Community.

Exhibit 28

Hospital	Address	County
Lake Cumberland Regional Hospital	305 Langdon Street, Somerset, KY 42502	Pulaski
Russell County Hospital	153 Dowell Road, Russell Springs, KY 42642	Russell
Ephraim McDowell Regional Medical Center	217 South Third Street, Danville, KY 40422	Boyle
Fort Logan Hospital	124 Portman Ave., Stanford, KY 40484-1200	Lincoln
Taylor Regional Hospital	1700 Old Lebanon Road, Campbellsville, KY 42718-9600	Taylor
Westlake Regional Hospital	901 Westlake Drive, Columbia, KY 42728-1149	Adair
Spring View Hospital	320 Loretto Road, Lebanon, KY 40033-0320	Marion

Source: US Hospital Finder

Other Health Care Facilities

Short-term acute care Hospital services are not the only health services available to members of the Hospital's community. E*xhibit 29* provides a listing of community health centers and rural health clinics in the Hospital's community.

Exhibit 29

Facility	Facility Type	Address	County
Bluegrass Clinic Liberty, PLLC	Rural Health Clinic	19 Abes Plaza, Liberty, KY 42539	Casey
Casey County Family Practice	Rural Health Clinic	112 Liberty Square Shopping Center, Liberty, KY 42539	Casey
Casey County Primary Care	Rural Health Clinic	187 Wolford Avenue, Liberty, KY 42539	Casey
Liberty Family Medical Center	Rural Health Clinic	511 Middleburg Street, Liberty, KY 42539	Casey

Source: CMS.gov, Health Resources & Services Administration (HRSA)

Health Departments

The community is governed by the Lake Cumberland District Health Department, which offers a large array of services to patients, including assessments and screenings, as well as education and wellness resources for children, personal, teen and in the workplace in order to help individuals take a proactive approach toward healthy living.

Some of these services include child and adult immunizations, well child exams, fluoride varnishing, family planning (birth control), prenatal care (limited service areas), Women, Infants & Children food program (WIC), medical nutrition therapy, diabetes screening and counseling, HIV and STD screenings and breast and cervical cancer screenings. They also offer non-clinical services such as disaster preparedness and environmental services.

Services are provided by medical professionals - physicians, nurse practitioners, registered nurses, LPNs, and registered dieticians- who adhere to the guidelines set forth by the Department of Public Health, ensuring that care is provided at the highest professional standard.

Many of the services are covered by Medicare, Medicaid and other insurances. In the case individuals are uninsured or their insurance doesn't pay for the service, the majority of the services are offered on a sliding fee scale basis.

APPENDICES

APPENDIX A

ANALYSIS OF DATA

Casey County Hospital
Analysis of CHNA Data

Analysis of Health Status-Leading Causes of Death

	U.S. Age-Adjusted Rate	(A) 10% of U.S. Age-Adjusted Rate	County Rate	(B) County Rate Less U.S. Age-Adjusted Rate	If (B)>(A), then "Health Need"
Casey County:					
Cancer	168.9	16.9	256.4	87.5	Health Need
Heart Disease	175.0	17.5	210.7	35.7	Health Need
Lung Disease	42.2	4.2	81.9	39.7	Health Need
Motor Vehicle Accident	10.8	1.1	23.5	12.7	Health Need
Stroke	37.9	3.8	42.2	4.3	Health Need
Unintentional Injury	38.6	3.9	62.4	23.8	Health Need

***The age-adjusted rate is shown per 100,000 residents. Please refer to Exhibit 18 for more information.

Analysis of Health Outcomes and Factors - County Health Rankings

	National Benchmark	(A) 30% of National Benchmark	County Rate	(B) County Rate Less National Benchmark	If (B)>(A), then "Health Need"
Casey County, KY					
Adult Smoking	14.0%	4.2%	27.0%	13.0%	Health Need
Adult Obesity	25.0%	7.5%	36.0%	11.0%	Health Need
Food Environment Index	8.3	2	7.2	1	
Physical Inactivity	20.0%	6.0%	33.0%	13.0%	Health Need
Access to Exercise Opportunities	91.0%	27.3%	33.0%	58.0%	Health Need
Excessive Drinking	12.0%	3.6%	11.0%	1.0%	
Alcohol-Impaired Driving Deaths	14.0%	4.2%	35.0%	21%	Health Need
Sexually Transmitted Infections	134	40	255	121	Health Need
Teen Birth Rate	19	6	59	40	Health Need
Uninsured	11.0%	3.3%	23.0%	12.0%	Health Need
Primary Care Physicians	1,040	312	8,030	6990	Health Need
Dentists	1,340	402	7,950	6610	Health Need
Mental Health Providers	370	111	1,440	1070	Health Need
Preventable Hospital Stays	38	11	151	113	Health Need
Diabetic Screen Rate	90.0%	27.0%	86.0%	4.0%	
Mammography Screening	71.0%	21.3%	47.0%	24.0%	Health Need
Violent Crime Rate	59	18	56	-3	
Children in Poverty	13.0%	3.9%	43.0%	30.0%	Health Need
Children in Single-Parent Households	21.0%	6.3%	19.0%	-2.0%	

* From County Health Rankings

Analysis of Health Outcomes and Factors - Community Health Status Indicators

Least Favorable

- Cancer deaths
- Chronic kidney disease deaths
- Stroke deaths
- Older adult preventable hospitalization
- Primary care provider access
- Adult binge drinking
- High housing costs
- No high school diploma
- Access to parks
- Housing stress
- Annual average PM2.5 concentration

* From Community Commons Data

Analysis of Primary Data – Key Informant Interviews

- Poverty
- Lack of Health Knowledge/Education
- Healthy Behaviors/Lifestyle Choices
- Lack of Mental Health Services
- Smoking
- Obesity
- Substance Abuse - drugs
- Neglect of personal health/preventative care
- Lack of financial resources
- Cost of Health Care/high deductibles
- Transportation

Issues of Uninsured Persons, Low-Income Persons and Minority/Vulnerable Populations

Population	Issues
Uninsured/Working Poor Population	Access to primary care physicians High cost of health care prevents needs from being met Lack of healthy lifestyle and health nutrition education
Persons with Mental Health Needs	Lack of mental health providers
Poor Elderly	Transportation Lack of health knowledge regarding how to navigate and access services Lack of family support

APPENDIX B

SOURCES

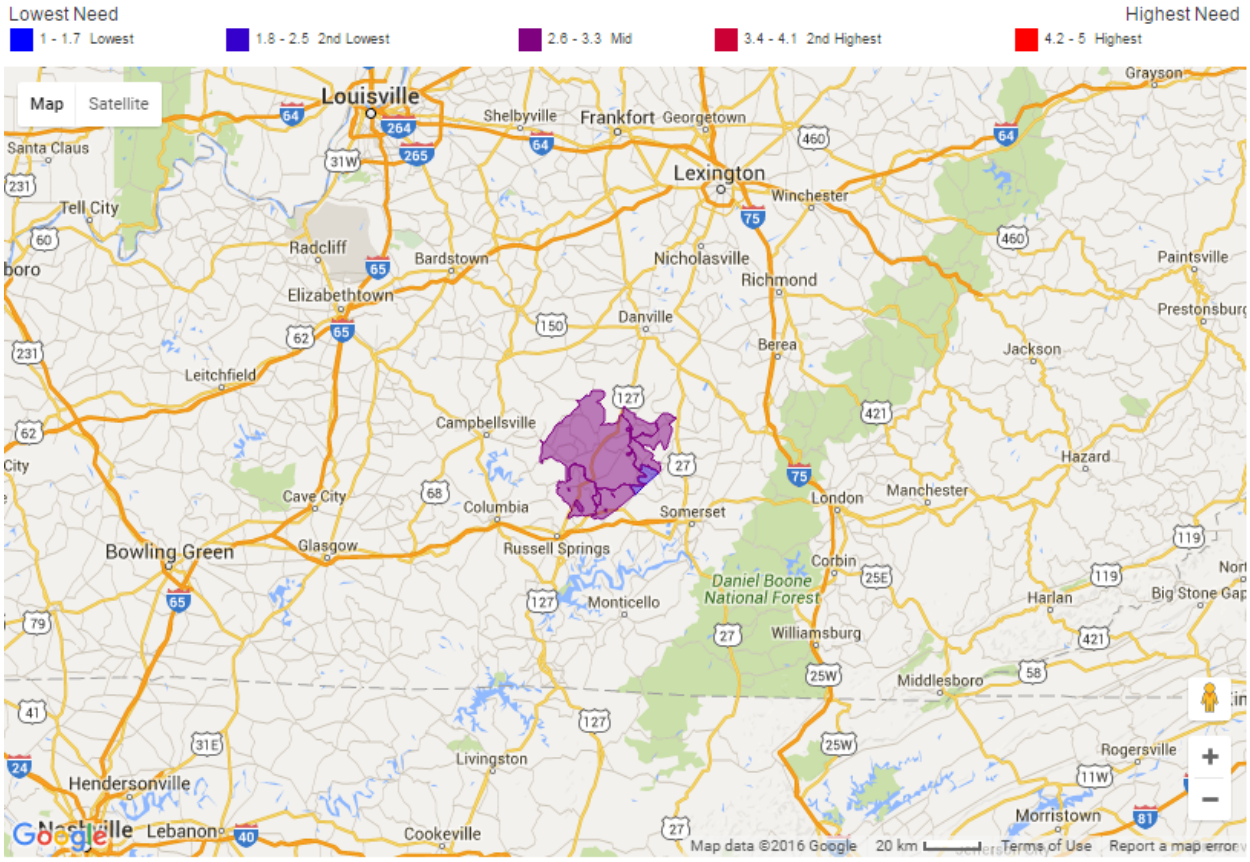
DATA TYPE	SOURCE	YEAR(S)
Discharges by Zip Code	Hospital	FY 2015
Population Estimates	Community Commons via American Community Survey http://www.communitycommons.org/	2015
Demographics - Race/Ethnicity	Community Commons via American Community Survey http://www.communitycommons.org/	2015
Demographics - Income	Community Commons via American Community Survey http://www.communitycommons.org/	2010 - 2014
Unemployment	Community Commons via US Department of Labor http://www.communitycommons.org/	2015
Poverty	Community Commons via US Census Bureau, Small Areas Estimates Branch http://www.census.gov	2010 - 2014
Uninsured Status	Community Commons via US Census Bureau, Small area Helath Insurance Estimates http://www.communitycommons.org/	2010 - 2014
Medicaid	Community Commons via American Community Survey http://www.communitycommons.org/	2010 - 2014
Education	Community Commons via American Community Survey http://www.communitycommons.org/	2010 - 2014
Physical Environment - Grocery Store Access	Community Commons via US Cenus Bureau, County Business Patterns http://www.communitycommons.org/	2013
Physical Environment - Food Access/Food Deserts	Community Commons via US Department of Agriculture http://www.communitycommons.org/	2010
Physical Environment - Recreation and Fitness Facilities	Community Commons via US Cenus Bureau, County Business Patterns http://www.communitycommons.org/	2013
Physical Environment - Physically Inactive	Community Commons via US Centers for Disease control and Prevention http://www.communitycommons.org/	2012
Clinical Care - Access to Primary Care	Community Commons via US Department of Health & Human Services http://www.communitycommons.org/	2012
Clinical Care - Lack of a Consistent Source of Primary Care	Community Commons via US Department of Health & Human Services http://www.communitycommons.org/	2011 - 2012
Clinical Care - Population Living in a Health Professional Shortage Area	Community Commons via US Department of Health & Human Services http://www.communitycommons.org/	2015
Clinical Care - Preventable Hospital Events	Community Commons via Dartmouth College Institute for Health Policy & Clinical Practice http://www.communitycommons.org/	2012
Leading Causes of Death	Community Commons via CDC national Bital Statistics System http://www.communitycommons.org/	2009 - 2013
Health Outcomes and Factors	County Health Rankings http://www.countyhealthrankings.org/ Community Commons http://www.communitycommons.org/ & Community Health Status Indicators http://wwwn.cdc.gov/communityhealth	2015 & 2009-2013
Health Care Resources	Community Commons, CMS.gov, HRSA	

APPENDIX C

DIGNITY HEALTH COMMUNITY NEED INDEX

(CNI) REPORT

Casey County



Mean(zipcode): 2.7 / Mean(person): 3 | CNI Score Median: 2.8 | CNI Score Mode: 2.6

Zip Code	CNI Score	Population	City	County	State
42516	2.4	432	Bethelridge	Casey	Kentucky
42528	2.6	1350	Dunnville	Casey	Kentucky
42539	3.2	10242	Liberty	Casey	Kentucky
42541	2.6	524	Middleburg	Casey	Kentucky
42565	2.6	687	Windsor	Casey	Kentucky
42566	2.8	575	Yosemite	Casey	Kentucky
40442	3	1304	Kings Mountain	Casey	Kentucky

APPENDIX D

KEY STAKEHOLDER INTERVIEW PROTOCOL

& ACKNOWLEDGEMENTS

KEY STAKEHOLDER INTERVIEW

Community Health Needs Assessment for: Casey County Hospital

Interviewer's Initials: _____

Date: _____ Start Time:_____ End Time: _____

Name: _____ Title: _____

Agency/Organization: _____

# of years living in _____ County: ____Current position: ___

E-mail address: _____

Introduction: Good morning/afternoon. My name is **[interviewer's name]**. Thank you for taking time out of your busy day to speak with me. I'll try to keep our time to approximately 40 minutes, but we may find that we run over – up to 50 minutes total - once we get into the interview. **(Check to see if this is okay).**

[Name of Organization] is gathering local data as part of developing a plan to improve health and quality of life in Casey County. Community input is essential to this process. A combination of surveys and key informant interviews are being used to engage community members. You have been selected for a key informant interview because of your knowledge, insight, and familiarity with the community. The themes that emerge from these interviews will be summarized and made available to the public; however, individual interviews will be kept strictly confidential.

To get us started, can you tell me briefly about the work that you and your organization do in the community?

Thank you. Next I'll be asking you a series of questions about health and quality of life in Casey County. As you consider these questions, keep in mind the broad definition of health adopted by the World Health Organization: 'Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity,' while sharing the local perspectives you have from your current position and from experiences in this community.

Questions:

1. In general, how would you rate health and quality of life in Casey County?

2. In your opinion, has health and quality of life in Casey County improved/declined /stayed the same over the past few years?

3. Why do you think it has (based on answer from previous question: Improved/declined/stayed the same)?

4. What other factors have contributed to the health and quality of life [improving, declining or staying the same] (based on answer to question 2:

5. What barriers, if any, exist to improving health and quality of life in Casey County?

6. In your opinion, what are the most critical health and quality of life issues in Casey County?

7. What needs to be done to address these issues? .

8. Do you think access to Health Services has improved over the last 3 years?

9. In your opinion, what is the reason why people are not able to access health services (medical, dental, mental health)? Please describe the challenges that keep individuals from seeking health care services?

__ Lack of Health Insurance
__ Inability to afford co-pays and/or deductibles
__ Transportation
__ Physicians refuse to take insurance or Medicaid
__ People don't know how to find a doctor.
__ Fear
__ Too long to wait for an appointment
__ Inconvenient hours/locations
__ Other

10. Please provide your thoughts on the accessibility of Mental Health services for residents of the community.

11. Please describe your familiarity and/or perceptions regarding educational programs provided by Casey County Hospital.

13. Are there any specialists (physicians) which are needed in the community? If so, what specialties are needed?

14. What groups of people in the community do you believe have the most serious unmet health care needs? Describe the causes? What should be done to address the needs of these persons?

15. What is the most important issue that the hospital should address in the next 3-5 years?

Close: Thanks so much for sharing your concerns and perspectives on these issues. The information you have provided will contribute to develop a better understanding about factors impacting health and quality of life in Casey County. Before we conclude the interview,

Is there anything you would like to add?

As a reminder, summary results will be made available by the **Casey County Hospital** and used to develop a community health improvement plan.

Key Stakeholders

Thank you to the following individuals who participated in our key informant interview process:
Sarah Christian, School District Health Nurse, Casey County Board of Education
Jelanie Harlow, Health Educator, Casey County Health Department
Katie York, Vice President, Casey County Bank
Bro. Greg Powell, Pastor, Mr. Olive Christian Church
Dr. Housam Haddad, Physician, Casey County Primary Care
Dennie Johnson, Chairman, Casey County Hospital Board of Trustees
Stephen Brown, Mayor, City of Liberty